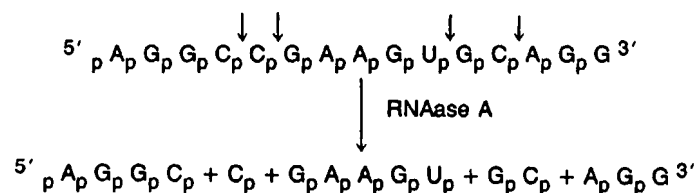


Ribonuclease A

(Bovine pancreas)

RNAase A is an endoribonuclease that specifically attacks single-stranded RNA 3' to pyrimidine residues and cleaves the phosphate linkage to the adjacent nucleotide. The end products are pyrimidine 3' phosphates and oligonucleotides with terminal pyrimidine 3' phosphates (Davidson 1972). RNAase A, which works in the absence of cofactors and divalent cations, can be inhibited by placental RNAase inhibitor (Blackburn et al. 1977) or by vanadyl-ribonucleoside complexes (Puskas et al. 1982).

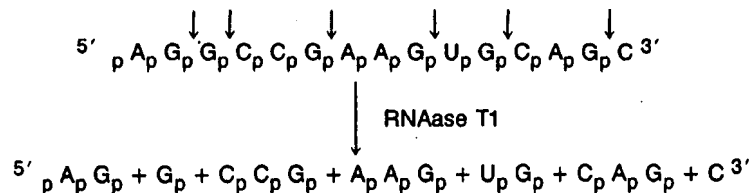
**USES**

1. Removing unhybridized regions of RNA from DNA:RNA hybrids.
2. Mapping single-base mutations in DNA or RNA (Myers et al. 1985; Winter et al. 1985). In this method, single-base mismatches in RNA:DNA or RNA:RNA hybrids are recognized and cleaved by RNAase A. A ³²P-labeled RNA probe complementary to wild-type DNA or RNA is synthesized in vitro using a plasmid containing a bacteriophage SP6 or T7 promoter. The RNA probe is then annealed to test DNA or RNA containing a single-base substitution. The resulting single-base mismatch is cleaved by RNAase A, and the location of the mismatch is then determined by analyzing the sizes of the cleavage products by gel electrophoresis. Approximately 50% of all possible single-base mismatches can be detected by this method.

Ribonuclease T1

(*Aspergillus oryzae*)

RNAase T1 is an endoribonuclease that specifically attacks the 3'-phosphate groups of guanine nucleotides and cleaves the 5'-phosphate linkage to the adjacent nucleotide. The end products are guanosine 3' phosphates and oligonucleotides with terminal guanosine-3'-phosphate groups (Davidson 1972).



USE

Removing unhybridized regions of RNA from DNA:RNA hybrids.